



Imperial College, London

Waterproofing Repairs to Historic Leaking Vaults

The Project

As part of their ongoing relationship with the [Imperial College London](#), Newton Specialist Contractor [A.P. Gooch](#) was tasked with assessing and waterproofing 11 historic Victorian brick vaults beneath London's streets, after the existing competitor 'waterproof render' had failed.

Imperial College London is a world top ten university, and it's top-class educational facilities in Central London are constantly used by multidisciplinary students, including doctors and nurses, for their studies. It was therefore crucial for A.P. Gooch to perform the work whilst also creating minimum disruption to the college students.

The Solution

Following a full assessment of the vaults, A.P. Gooch decided that the best option was to install the tried and tested 'failsafe' [Newton System 500](#) cavity drainage membrane solution in order to depressurise, capture and safely manage ingressing water away from the building.

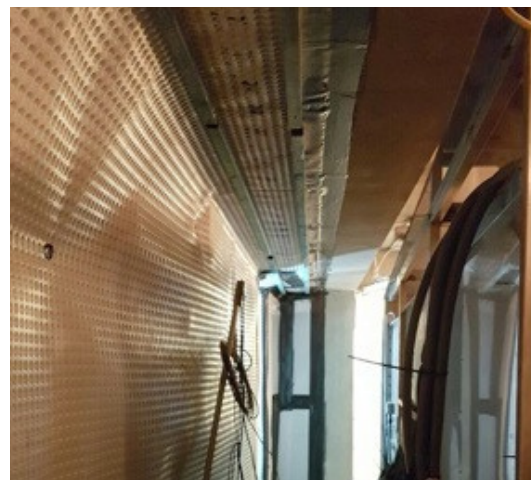
By installing [Newton 508](#) membrane with strategically placed [Newton MultiPlug](#) fixings, the system remained sympathetic to the historic structure beneath. [Newton Basedrain](#) was also installed in order to channel captured water to one of four [Newton Titan-2](#) sump chambers, the compact size of which made them ideal for use in a structure with such tight size restrictions. Each chamber also contained primary and backup [Newton CP400](#) pumps to ensure that there will always be a safe means of removing captured water from the building.

The Result

Now fully protected by a maintainable system, compliant with waterproofing code of practice BS 8102:2009, all 11 vaults are now completely dry, providing safe and healthy individual study rooms for the medical students at Imperial College.



The original render was allowing in multiple leaks.



Membranes were fitted with minimum disruption.



"Imperial College London Business School truly is a magnificent landmark building in this area of the capital, and one of the most important scientific and research buildings both in the UK and the rest of the world. It was an honour for A.P. Gooch Basement Waterproofing to be assigned the project, and also the responsibility of creating a dry, functional space in which the students of Imperial College can study, develop and learn."

Anthony Gooch, Director, A.P. Gooch Basement Waterproofing

The Products

508

A high quality Newton System 500 cavity drain waterproofing membrane, manufactured from high density polyethylene and suitable for use internally to the retaining walls of below ground structures.

MULTIPLUG

Specially designed fixing plug for securing System 500 membranes to the wall and providing a fixing point for screws and/or wall ties.

BASEDRAIN

A core set of components used within the Newton 500 system that receives ingressing water and directs it to a safe discharge point.

TITAN-2

Compact and fully built pumping system, ideally suited for locations that are too tight for larger pumping systems, and compatible with Newton NP and CP clean water pumps.

CP400 PUMPS

High quality clean water pump ideally suited for removing groundwater from basements and cellars.

HIGH WATER ALARM

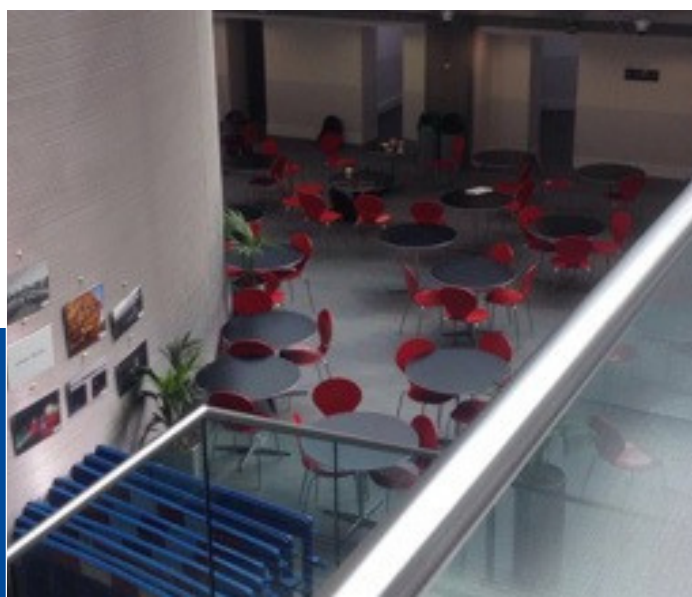
Designed to detect high water levels within Newton sump chambers, giving both visual and audible indication of the alarm condition.



Timber battens were fixed into the heads of the MultiPlugs.



Four Titan-2 sump chambers pumps provided plenty of drainage.



The result was a dry, safe and pleasant study space.

Newton Specialist Basement Contractors

Newton recommends that our systems are installed by one of our nationwide network of Newton Specialist Basement Contractors (NSBCs). Trained by Newton, NSBCs offer a full guarantee on the design and installation, and can act as Waterproofing Design Specialists.



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